

Claims 1-4 and 6-9 were rejected under 35 U.S.C. §102(b) as being anticipated by French Patent 2 452 452 (Prestinox) or Japanese Application 4-50070 (Sony) or Japanese Application 2002-168747 (Akashi).

As an initial observation, Applicants note that the Examiner did not designate claim 10, which was submitted as a new claim (together with new claim 9) in Applicants' previous response, among the pending claims in the Office Action Summary, nor did the Examiner address the patentability of claim 10 on the merits.

As to claims 1-4 and 6-9, the Examiner did not provide a detailed substantiation of the elements or teachings in the respective references that the Examiner believes correspond to the elements of claims 1-4 and 6-9. Applicants respectfully submit that none of the above references discloses all of the elements of independent claim 1, or all of the elements of independent claim 4, or all of the elements of independent claim 9, and therefore none of those references anticipates any of those independent claims, nor any of the claims respectively depending therefrom.

With regard to the Prestinox reference, this reference describes a drive mechanism for a coil, for example for use in a film projector. A braking mechanism is provided wherein the brake 16 is supplied with direct current during the entire braking period (this is the meaning of the French phrase "pendant toute la période de freinage" at page 3, line 15 of Prestinox). The Prestinox reference teaches that the direct current is applied preferably with an alternating current component of 100 Hz superimposed thereon (this is the meaning of the French phrase "avec une superposition d'une composante de courant alternatif" at page 3, lines 16-17 of the Prestinox reference). The alternating current component at 100 Hz thus forms a

component of the current that, if used, is applied to the coil during the entire braking period. Moreover, this 100 Hz alternating current component is present only by virtue of being superimposed on the primary component, namely the direct current. There is no teaching in the Prestinox reference to apply the alternating current component without the direct current component. If the direct current component is not present, it is not available for the 100 Hz alternating current to be superimposed thereon, and therefore in the context of the Prestinox reference it is meaningless to consider the application of the alternating current component by itself.

By contrast, in the subject matter disclosed and claimed in the present application in independent claims 1, 4 and 9, the power supply operates so that the electromagnet is initially supplied with direct current in order to achieve magnetization. This direct current is subsequently interrupted, as explicitly stated in independent claims 1, 4 and 9, and the electromagnet then is supplied with alternating current. The supply of the alternating current in the claimed subject matter, therefore, occurs only upon interruption of the supply of the direct current, and therefore the alternating current is not superimposed on the direct current as disclosed in the Prestinox reference.

Moreover, each of independent claims 1, 4 and 9 explicitly states that the alternating current flow through the electromagnet has a successively decreasing amplitude characteristic. No such teaching even with regard to the superimposed alternating current exists in the Prestinox reference. A person of ordinary skill reading the Prestinox reference would be taught that the amplitude of the superimposed alternating current is constant. Moreover, because the alternating current in the Prestinox reference is superimposed on the direct current, rather than

being supplied to an electromagnet after interruption of the direct current, there is no switch in the Prestinox reference that functions as set forth in independent claim 4.

The Prestinox reference, therefore, does not disclose all of the elements of claims 1-4 and 6-9 as arranged and operating in those claims, and therefore does not anticipate any of those claims.

The Sony reference discloses demagnetization of an iron core forming an armature of an electromagnet wherein the demagnetization initially ensues by a capacitor being charged upon closing of a switch. After disconnection of the switch from the capacitor, the discharge current is supplied in the opposite direction from a coil. The capacitor thus is charged while the coil is energized. Upon discharge of the capacitor, a current flows in the opposite direction through the coil until the capacitor is discharged. As can be seen from the drawing at page 424 of the Sony reference, the coil L and the capacitor C are not connected as an oscillating circuit, and therefore no alternating current can be produced. Instead, as explained in the Abstract of the Sony reference, a current is produced "in the opposite direction." It is true that the amplitude of this current unavoidably decreases as is natural in the discharge event of a capacitor, however, there is no teaching in the Sony reference that an alternating current is produced having such a decreasing amplitude characteristic, as set forth in each of the independent claims of the present application. As discussed in the present specification, this decreasing amplitude characteristic assists in the braking effect, which is not a consideration that is present in the Sony reference.

The Sony reference, therefore, does not disclose all of the elements of claims 1-4 and 6-9, as arranged and operating in those claims, and therefore does not anticipate any of those claims.

Lastly, the Akashi reference discloses an apparatus to test the hardness of a material wherein an electromagnetic brake is employed. The electromagnetic brake is operated by initially providing an actuating current that is subsequently reversed in direction for a predetermined period in order to achieve demagnetization. As can be seen from the drawing included in the Abstract of the Akashi reference, this reverse-direction current is also a direct current (the pulse amplitude remains the same, only the polarity changes when the actuating current is applied again). There is no disclosure of the use of an alternating current, particularly an alternating current with a decreasing amplitude characteristic, in the Akashi reference. The switch that is provided in the Akashi reference is only for the purpose of switching the polarity of the direct current source, and is not for the purpose of switching some other current, such as an alternating current, for supply to any component of the electromagnetic brake. The Akashi reference, therefore, does not disclose all of the elements of claims 1-4 and 6-9, and therefore does not anticipate any of those claims.

As noted above, claim 10 was not included in the aforementioned rejections. Nevertheless, the above arguments apply to claim 10 as well.

Lastly, the Examiner took the unusual step of rendering an action on the merits (addressed above) and simultaneously imposing an election of species requirement. The election of species requirement is respectfully traversed because Applicants submit the Examiner has no statutory authority to require an election of species with regard to claims that have already been examined on the merits. The

sole purpose of an election of species requirement is to relieve the Examiner of the necessity of conducting searching and examination with regard to claims directed to a non-elected species, in the event that no generic claim is found to be allowable. Since the Examiner has already treated all of the claims of the application on the merits, nothing is to be gained by simultaneously imposing an election of species requirement. The Examiner has already done all of the work that an election of species requirement is designed to avoid.

Moreover, it is untenable and unfair to require the Applicants to respond on the merits to claims that might subsequently be withdrawn from consideration. Applicants are then placed in the unfair position of having to make arguments that could later be used against the Applicants for limiting the scope of the claims, and then having those claims withdrawn from consideration, but the arguments still remain in the prosecution history.

Applicants acknowledge that, for completeness, even though the election of species requirement is traversed, Applicants nevertheless must make a provisional election. The Examiner defined the species as being the species shown in Figure 1 and the species shown in Figure 2. Applicants herewith elect the species of Figure 1, and submit that all claims of the application are readable on this species. This is a provisional election only. If the Examiner intends to maintain the election of species requirement, the Examiner is requested to demonstrate statutory authority for imposing an election of species requirement with regard to claims that already have been examined on the merits. Applicants respectfully submit that no such statutory authority exists.

All claims of the application are respectfully submitted to be in condition for allowance, and early reconsideration of the application is requested.

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